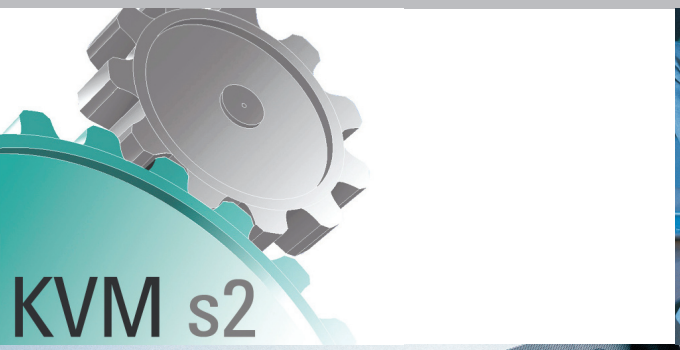
control²

User Guide

KVM series2-1611

Keyboard/Video/Mouse Switch

English



FUJITSU COMPUTERS SIEMENS

KVM series2-1611

Installer/User Guide

Edition October 2005

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There you will also find the addresses of the relevant User Documentation Department.

Certified documentation according to DIN EN ISO 9001:2000

To ensure a consistently high quality standard and user-friendliness, this documentation was created to meet the regulations of a quality management system which complies with the requirements of the standard DIN EN ISO 9001:2000.

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1 Preface

The Fujitsu Siemens KVM series2-1611 (KVM s2-1611) switches combine analog and digital technology to provide flexible, centralized control of data center servers. This solution delivers secure digital access and flexible server management from anywhere at any time.

Throughout the documentation you will see the word “appliance” used generically to describe the KVM s2-1611 switch.

The KVM s2-1611 consists of a rack mountable keyboard, video and mouse (KVM) switch configurable for analog or digital connectivity. Each KVM s2-1611 has 16 Fujitsu Siemens Rack Interface (RI) ports for connecting devices and operates over standard LAN connections. Access servers across a 100BaseT Ethernet connection or directly through an analog port on the KVM s2-1611 for analog KVM connectivity and administration. Video resolutions through the analog port can be up to 1600 x 1280 with an end-to-end cable length of up to 15 meters (50 feet). Digital users can achieve video resolution of up to 1280 x 1024 with a cable length of up to 10 meters (32 feet) between the KVM s2-1611 and the server.

KVM series2-Adapter

The Fujitsu Siemens KVM series2-Adapters (KVM s2-Adapters) with CAT 5 design dramatically reduce cable clutter, while providing optimal digital display resolution and video settings. The built-in memory of the KVM s2-Adapter simplifies configuration by assigning and retaining unique server names or Electronic ID (EID) numbers for each attached server. This integrated intelligence enhances security and prevents unauthorized access to a server through cable manipulation. The KVM s2-Adapter is powered directly from the server and provides Keep Alive functionality even if the KVM s2-1611 is not powered.

Access via network connection

No special software or drivers are required on the attached computers. Digital users access the KVM s2-1611 and all attached systems via Ethernet from a PC running the KVM series2-Client (KVM s2-Client or Client) software. This software resides on the user’s PC only. User PCs can be located anywhere a valid network connection exists. The KVM s2-1611 can be configured on a separate network from your data network, allowing access to your servers even if your applications network is down.

Point and click control with KVM s2-Client software

The KVM s2-Client software is a cross-platform management application that allows you to view and control the KVM s2-1611 and all attached servers.

The Client software provides secure authentication, data transfers and username/

password storage. By utilizing a browser interface for navigation with an intuitive split-screen interface, this software provides you with a single point of access for your entire system. From here, you can manage the KVM s2-1611, install a new KVM s2-1611 or launch a video session to a system server. Multiple servers can be accessed by one user; each additional computer's video will appear in a separate program window.

Throughout the documentation and KVM s2-Client user interface, you will see the word "appliance" used generically to describe the KVM s2-1611 switch.

1.2 Summary of contents

Safety notes

It is essential to read the following "Safety notes" chapter **before** starting to work with the KVM s2-1611. That chapter contains essential information for proper installation and handling of the KVM s2-1611 device.

This manual describes how to install the KVM s2-1611 and explains how to configure and operate the appliance.

1.3 Notational Conventions

The following notational conventions are used in this manual:

Bold	This indicates emphasis in the text.
Key	This indicates keys or key combinations in continuous text.
Italics	This indicates commands, file names, menu names and inputs in continuous text.
	This indicates additional information and tips.
Title	This indicates information, which if not heeded, may jeopardize your health, the functioning of your system or the security of your data.
►	This indicates a step that you have to perform.
- and •	These characters symbolize itemized lists.

2 Safety notes

This chapter provides radio frequency and safety information for your appliance.

2.1 Radio frequency information

United States radio frequency information

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Canadian radio frequency information

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n’émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le Ministère des Communications du Canada.

Japanese radio frequency information

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2.2 Precautions and rack mount safety

Avoiding potential video and/or keyboard problems when using the KVM s2-1611

- If the building has 3-phase AC power, ensure that the computer and monitor are on the same phase. For best results, they should be on the same circuit.
- Use only Fujitsu Siemens-supplied cable to connect computers and KVM switches. Fujitsu Siemens warranties do not apply to damage resulting from user-supplied cable.

Avoiding potentially fatal shock hazard and possible damage to equipment

- Do not use a 2-wire extension cord in any of the Fujitsu Siemens product configurations.
- Test AC outlets at the computer and monitor for proper polarity and grounding.
- Use only with grounded outlets at both the computer and monitor. When using an Uninterruptible Power Supply (UPS), power the computer, the monitor and the appliance off the supply.

The AC inlet is the main disconnect.

Rack mount safety considerations

- Elevated Ambient Temperature: If installed in a closed rack assembly, the operation temperature of the rack environment may be greater than room ambient. Use care not to exceed the rated maximum ambient temperature of the unit.
- Reduced Air Flow: Installation of the equipment in a rack should be such that the amount of airflow required for safe operation of the equipment is not compromised.
- Mechanical Loading: Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
- Circuit Overloading: Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of circuits might have on overcurrent protection and supply wiring. Consider equipment nameplate ratings for maximum current.
- Reliable Earthing: Reliable earthing of rack mounted equipment should be maintained. Pay particular attention to supply connections other than direct connections to the branch circuit (for example, use of power strips).

3 KVM series2-1611

3.1 Preinstallation

The KVM s2-1611 system requires that the KVM s2-Client software be installed prior to use. The KVM s2-Client software allows you to view and control a server attached to the appliance system, configure and maintain the system and prevent unauthorized access to the appliance via IP connection.

The analog port does not require the Client software for operation. The analog port uses the On-Screen Configuration and Activity Reporting interface (OSCAR®).

The KVM s2-1611 system uses Ethernet networking infrastructure and TCP/IP protocol to transmit keyboard, video and mouse information between operators and connected computers. Although 10BaseT Ethernet may be used, a dedicated, switched 100BaseT network provides improved performance.

3.1.1 Getting started

Before installing your KVM s2-1611 appliance, refer to the following list to ensure you have all items that shipped with the appliance as well as other items necessary for proper installation.

3.1.1.1 Supplied with the KVM series2-1611

- KVM s2-1611 unit
- Power cord
- Rack mounting kit
- One straight-through null modem serial cable
- KVM series2-1611 Installer/User Guide
- KVM series2-Client software Installer/User Guide
- KVM series2-1611 Quick Installation Guide

3.1.1.2 Additional items needed

- One KVM s2-Adapter per attached server or switch

3.1.2 Setting up your network

The KVM s2-1611 system uses IP addresses to uniquely identify the appliances and the computers running Client software. The KVM s2-1611 appliance supports both BootP (a subset of DHCP) and static IP addressing.

Fujitsu Siemens recommends that IP addresses be reserved for each unit and that they remain static while the appliances are connected to the network.

3.1.3 Rack mounting your appliance

Your KVM s2-1611 appliance ships with rack mounting brackets for easy integration into your rack. Before installing the appliance and other components in the rack cabinet (if not already installed), stabilize the rack in a permanent location. Install your equipment starting at the bottom of the rack cabinet, then work to the top. Avoid uneven loading or overloading of rack cabinets.

3.1.3.1 Installing the rack mount brackets

- ► Line up the holes in the “long side” of the kit’s side brackets with the screw holes in the switch.
- ► With a Phillips screwdriver, fasten the mounting brackets to the switch using two 8/32” x 1/2” pan head screws on each side.
- ► Attach the four cage nuts or clip nuts to the rack mounting flange of the rack cabinet so that the nut is positioned on the inside of the rack.
- ► Mount the switch assembly to the rack cabinet by matching the holes in the “short side” of each bracket to an appropriate set of matching holes on your rack cabinet. Next, insert the combination hex head screws through the slots in the bracket and the holes in the mounting rail, then into the cage nuts or clip nuts.

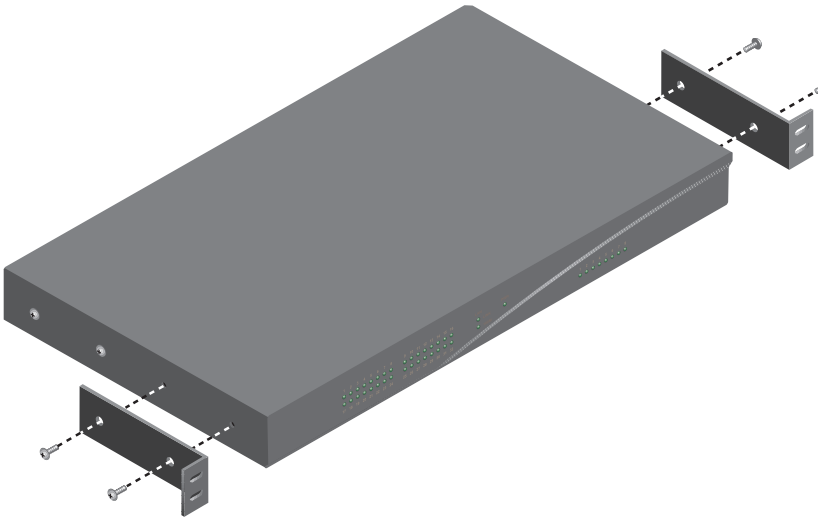

Figure 1: KVM s2-1611 Horizontal Installation

3.2 KVM series2-1611 hardware

The following table lists the port and connection information for your appliance.

Server Ports	
Number	16
Types	PS/2, Sun and USB KVM s2-Adapters
Connectors	RJ45
Sync Types	Separate horizontal and vertical
Plug and Play	DDC2B
Video Resolution	Analog Port Maximum: 1600 x 1280 @ 75 Hz Digital Port Maximum 1280 x 1024 @ 75 Hz
Configuration Port	
Number	1
Type	Serial RS232 with terminal set to 9600 baud, 8 bits, 1 stop bit, no parity and no flow control
Connector	DB9 Male
Network Connection	
Number	1
Type	Ethernet: IEEE 802.3, 10BaseT, Fast Ethernet: IEEE 802.3U, 100BaseT
Connector	RJ45
Analog Port	
Number	1
Type	PS/2 and VGA
Connectors	PS/2 MiniDIN and 15-pin D

Table 1: KVM s2-1611 Ports and Connections

3.2.1 Power ratings

Heat Dissipation	92 BTU/Hr
Airflow	8 cfm
Power Consumption	25 W
AC-input power	40 W maximum
AC-input voltage rating	100 to 240 VAC Autosensing
AC-input voltage rating	100 to 240 VAC Autosensing
AC-input current rating	1A
AC-input cable	18 AWG three-wire cable, with a three-lead IEC-320 receptacle on the power supply end and a country or region dependent plug on the power resource end
AC-frequency	50/60 Hz

Table 2: KVM s2-1611 Power Ratings

3.2.2 Dimensions and environmental conditions

Dimensions	
(H x W x D)	4.45 x 43.18 x 27.94 cm 1U form factor (1.75 x 17.00 x 11.00 in)
Weight	3.6 kg (8 lb) without cables
Environmental	
Temperature	10º to 50º Celsius(50º to 122º Fahrenheit) operating -20º to 60º Celsius (-4º to 140º Fahrenheit) nonoperating
Humidity	20 to 80% noncondensing operating 5 to 95% noncondensing nonoperating

Table 3: KVM s2-1611 Dimensions and Environmental Information

3.2.3 Standards

Agency Approvals	EN55022 Class A, EN55024, EN61000-3-3, FCC15 Class A, VCCI Class A, IEC950, EN60950, UL 1950/60950 third edition, CSA C22.2 No. 950

Table 4: KVM s2-1611 Standard Information

3.3 Installing the KVM series2-1611

Figure 2 illustrates one possible configuration for your KVM s2-1611 appliance. Follow the detailed set of procedures following Figure 2 to successfully install your appliance.

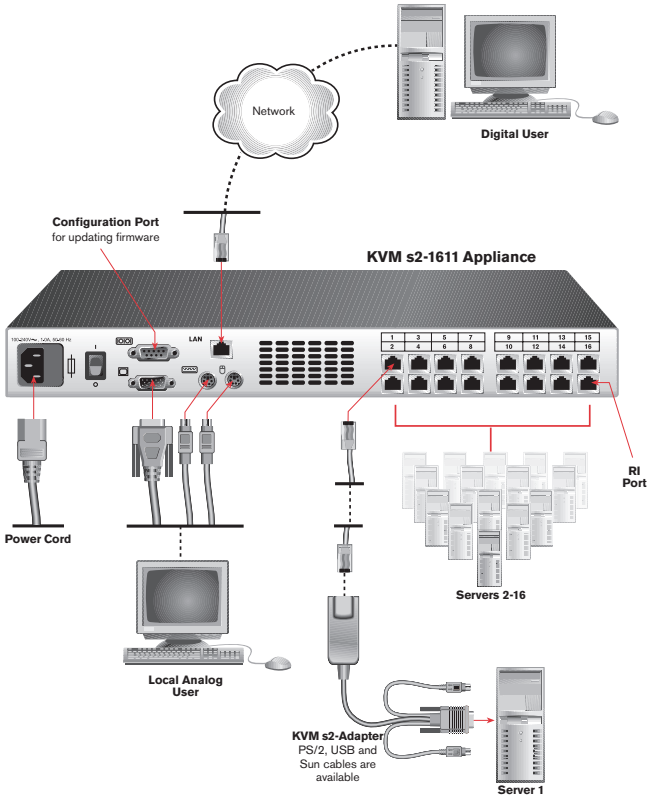

Figure 2: Basic KVM s2-1611 Configuration

Reducing the risk of electric shock or damage to your equipment

- Do not disable the power cord grounding plug. The grounding plug is an important safety feature.
- Plug the power cord into a grounded (earthed) outlet that is easily accessible at all times.
- Disconnect the power from the unit by unplugging the power cord from either the electrical outlet or the unit.

3.3.1 Installing the KVM series2-1611 hardware

- ► Connect a terminal or PC running terminal emulation software (such as HyperTerminal) to the configuration port on the back panel of the appliance using a RS232 DB9 null modem cable. The terminal should be set to 9600 baud, 8 bits, 1 stop bit, no parity and no flow control.
- ► Plug the supplied power cord into the back of the appliance and then into an appropriate power source.
- ► When you turn on the power, the Power indicator on the front of the unit will blink for 30 seconds while performing a self-test. Approximately 10 seconds after it stops blinking, press the Enter key to access the main menu.

3.3.2 Configuring the KVM series2-1611 hardware

- ► You will see the Terminal Applications menu with six options. Select option 1, *Network Configuration.*

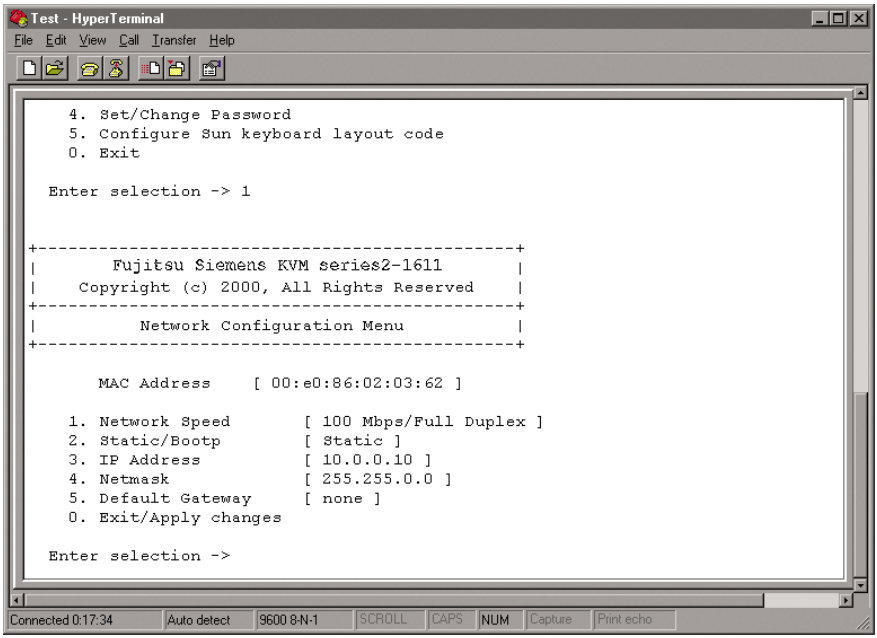

Figure 3: Network Configuration Menu

- ► Select option 1 to set your network speed. When possible, you should set your connection manually without relying on the auto negotiate feature. Once

you enter your selection, you will be returned to the Network Configuration menu.

► Select option 2 and specify if you are using a static or BootP IP address. Use a static IP address for ease of configuration. If you are using a BootP address, please configure your BootP server to provide an IP address to the appliance, skip step 4 and continue to the next procedure.

► Select options 3-5 from the Terminal Applications menu, in turn, to finish configuring your appliance for IP address, Netmask and Default Gateway. Once this is completed, type a Ø (zero) to return to the main menu.

3.3.3 Adjusting the mouse acceleration

Before a server can be connected to the KVM s2-1611, an adjustment to mouse acceleration must be made. Use the default Microsoft® Windows® PS/2 mouse driver for all attached Microsoft Windows systems attached to the appliance.

3.3.3.1 Adjusting the mouse using Microsoft Windows NT® (using default drivers)

► From the desktop, select *Start - Settings - Control Panel - Mouse*.

► Click on the *Motion* tab.

► Set the pointer speed to *Slow*. You will need to set this for any Windows NT user account that will be accessing the Windows NT system through the appliance.

3.3.3.2 Adjusting the mouse using Microsoft Windows 2000/Windows XP

► From the desktop, select *Start - Settings - Control Panel - Mouse*.

► Click on the *Motion* tab.

► Set the Acceleration setting to *None* and the speed setting to the default of *50%*.

3.3.3.3 Adjusting the mouse using Solaris

► Open the *Workspace* menu on your desktop.

► Select *Applications - Application Manager - Desktop_Controls*.

► Open the *Mouse Style Manager* and set the Acceleration to *1.0*.

3.3.4 Connecting a KVM s2-Adapter to each server

► Locate the KVM s2-Adapters for your KVM s2-1611 unit.

► Attach the appropriately color-coded cable ends to the keyboard, monitor and mouse ports on the first server you will be connecting to the unit.

- ► Attach one end of the CAT 5 cabling that will run between your KVM s2-Adapter and unit to the RJ45 connector on the KVM s2-Adapter.
- ► Connect the other end of the CAT 5 cable to the desired Rack Interface (RI) port on the back of your KVM s2-1611 unit.
- ► Repeat steps 2-4 for all servers you wish to attach.

When connecting a Sun KVM s2-Adapter, you must use a multi-sync monitor to accommodate Sun computers that support both VGA and sync-on-green or composite sync.

3.3.5 Adding a KVM switch

You can add your cascade switches to the KVM s2-1611 system for better integration into your existing configuration. In a cascaded system, each RI port will accommodate up to 24 servers.

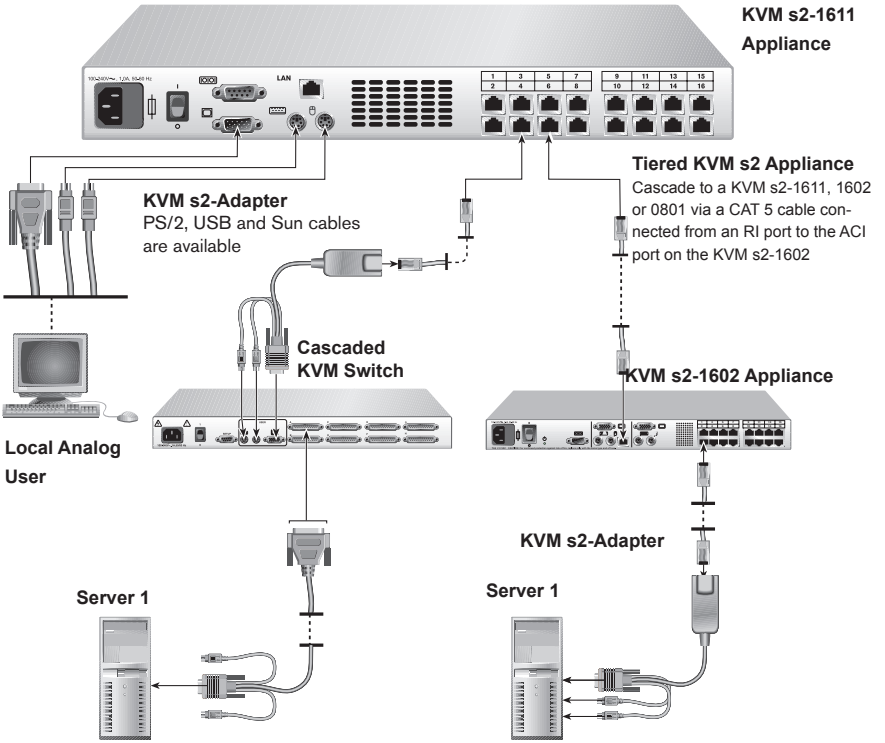
KVM s2-1611
Appliance
Tiered KVM s2 Appliance
Cascade to a KVM s2-1611, 1602 or 0801 via a CAT 5 cable connected from an RI port to the ACI port on the KVM s2-1602
KVM s2-Adapter
PS/2, USB and Sun cables are available
Cascaded
KVM Switch
KVM s2-1602 Appliance
Local Analog
User
KVM s2-Adapter
Server 1
Server 1

Figure 4: KVM s2-1611 Configuration with a Cascaded KVM Switch

- ► Mount the KVM switch into your rack cabinet. Locate a length of CAT 5 cabling to connect your appliance to the KVM s2-Adapter for your switch.
- ► Attach one end of the CAT 5 cabling to the RJ45 connector on the KVM s2-Adapter.
- ► Connect the other end of the CAT 5 cable to a port on the back of your KVM s2-1611.
- ► Attach the keyboard, monitor and mouse connectors of the KVM s2-Adapter to a user port on your cascade switch.
- ► Connect the servers to your Fujitsu Siemens cascade switch according to the instructions included with the device.
- ► Power cycle the switch to enable the cascade code.
- ► Repeat steps 2-5 for all cascade switches you want to attach to your system.

You can also cascade a KVM s2-1611 off of a KVM s2-1602/0801. To do this, attach one end of a CAT 5 cable to the ACI port on the main KVM s2-1602/0801. Attach the other end of the CAT 5 cable to an RI port on the cascaded KVM s2-1611. Note that only one level of tiering is supported in this type of configuration and the local port OSCAR is disabled when the main KVM s2-1602/0801 is cascaded below the KVM s2-1611. See the KVM series2-1602/0801 User Guide for more information on this process.

3.3.6 Connecting the network and turning on your KVM s2-1611

- ► Connect your network cable from the LAN port on the rear of the KVM s2-1611 appliance to your network.
- ► The components in the KVM s2-1611 system may be turned on in any order. However, since the KVM s2-Adapters are powered by the servers, turn on the servers first and then turn on all attached systems for the most efficient startup.

3.4 Setting Up the KVM s2-1611/Client System

See the KVM series2-Client Installer/User Guide that ships with your appliance.

The KVM s2-1611 system has an analog port that allows you to attach a monitor and a PS/2 keyboard and mouse to the back of the unit. First, set up your servers at the analog port via OSCAR before proceeding to the Client software to finish configuring your system. Proceed to the “Operations” chapter in this installer/user guide for detailed instructions on OSCAR setup and configuration. Once your servers are named, you will want to use a digital station to configure the Client

software. See the KVM series2-1611 Quick Installation Guide for an overview of the hardware and software installation procedure.

4 Operations

4.1 Controlling Your System at the Analog Port

The KVM s2-1611 includes an analog port on the back of the unit that allows you to connect a monitor and a PS/2 keyboard and mouse for direct analog access. The appliance uses OSCAR®, the On-Screen Configuration and Activity Reporting interface, which utilizes intuitive menus to configure your system and select computers.

4.2 Viewing and Selecting Ports and Servers

Use the OSCAR Main dialog box to view, configure and control servers in the KVM s2-1611 system. View your servers by name, port or by the unique Electronic ID number (EID) embedded in each KVM s2-Adapter. You will see an OSCAR-generated port list by default when you first launch OSCAR.

The Port column indicates the RI port to which a server is connected. If you connect a legacy KVM switch to the appliance, the port numbering displays the RI port first, then the switch port to which the server is connected. For example, in Figure 5, servers 06-03 and 01-02 are connected to switches.

4.2.1 Accessing the Main dialog box

Press Print Screen to launch OSCAR. The Main dialog box appears.

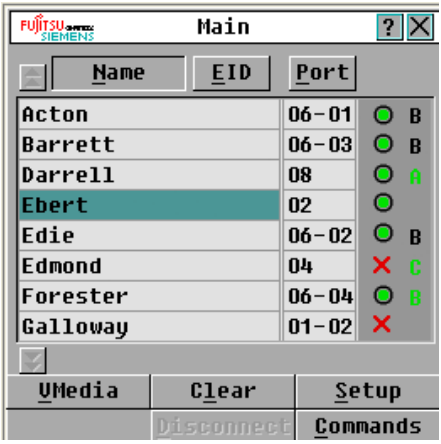

Figure 5: Example of Configured Main Dialog Box

You can also press the Control key twice within one second to launch OSCAR. You can use this key sequence in any place you see Print Screen throughout this installer/user guide.

4.2.2 Viewing the status of your appliance

The status of the servers in your system is indicated in the right columns of the Main dialog box. The following table describes the status symbols.

OSCAR Symbol	Description
	KVM s2-Adapter is online.
	KVM s2-Adapter is offline or is not operating properly.
A	KVM s2-Adapter is being accessed by the indicated user channel.
A	KVM s2-Adapter is blocked by the indicated user channel. For instance, in Figure 5, user B is viewing Forester, but is blocking access to Acton, Barrett and Edie which are connected to the same KVM s2-Adapter chain.

Table 5: OSCAR Status Symbols

4.2.3 Selecting servers

Use the Main dialog box to select servers. When you select a server, the appliance reconfigures the keyboard and mouse to the proper settings for that server.

► Double-click the server name, EID or port number.
-or-
If the display order of your server list is by port (*Port* button is depressed), type the port number and press Enter .
-or-
If the display order of your server list is by name or EID number (*Name* or *EID* button is depressed), type the first few characters of the name of the server or the EID number to establish it as unique and press Enter .

4.2.3.1 Selecting the previous server

► Press Print Screen and then Backspace. This key combination toggles you between the previous and current connections.

4.2.3.2 Disengaging the user from a server

► Press Print Screen and then Alt+Ø . This leaves the user in a free state, with no server selected. The status flag on your desktop displays *Free*.

4.2.4 Soft switching

Soft switching is the ability to switch servers using a hot key sequence. You can soft switch to a server by pressing Print Screen and then typing the first few characters of its name or number. If you have set a Screen Delay Time and you press the key sequences before that time has elapsed, OSCAR will not display.

4.2.4.1 Configuring servers for soft switching

- ► Press Print Screen to launch OSCAR. The Main dialog box appears.
- ► Click *Setup - Menu*. The Menu dialog box appears.
- ► For Screen Delay Time, type the number of seconds of delay desired before the Main dialog box is displayed after Print Screen is pressed.
- ► Click *OK*.

4.2.4.2 Soft switching to a server

- ► To select a server, press Print Screen. If the display order of your server list is by port (*Port* button is depressed), type the port number and press Enter .
  -or-
  If the display order of your server list is by name or EID number (*Name* or *EID* button is depressed), type the first few characters of the name of the server or the EID number to establish it as unique and press Enter .
- ► To switch back to the previous server, press Print Screen then Backspace.

4.3 Navigating OSCAR

This table describes how to navigate OSCAR using the keyboard and mouse.

This Keystroke	Does This
Print Screen	Opens OSCAR. Press Print Screen twice to send the Print Screen keystroke to the currently selected device.
F1	Opens the Help screen for the current dialog box.
Escape	Closes the current dialog box without saving changes and returns to the previous one. In the Main dialog box, it closes OSCAR and returns to the flag. In a message box, it closes the pop-up box and returns to the current dialog box.

This Keystroke	Does This
Alt	Opens dialog boxes, selects or checks options and executes actions when used with underlined or other designated letters.
Alt+X	Closes the current dialog box and returns to the previous one.
Alt+O	Selects the *OK* button, then returns to the previous dialog box.
Single-click, Enter	In a text box, it selects the text for editing and enables the Left and Right Arrow keys to move the cursor. Press Enter again to quit the edit mode.
Enter	Completes a switch in the Main dialog box and exits OSCAR.
Print Screen**, Backspace**	Toggles back to previous selection.
Print Screen**, Alt+ Ø**	Immediately disengages user from a server; no server is selected. Status flag displays Free. (This only applies to the Ø on the keyboard and not the keypad.)
Print Screen, Pause	Immediately turns on screen saver mode and prevents access to that particular console, if it is password protected.
Up/Down Arrows	Moves the cursor from line to line in lists.
Right/Left Arrows	Moves the cursor between columns. When editing a text box, these keys move the cursor within the column.
Page Up/Page Down	Pages up and down through Name and Port lists and Help pages.
Home/End	Moves the cursor to the top or bottom of a list.
Backspace	Erases characters in a text box.
Delete	Deletes current selection in the scan list or characters in a text box.
Shift-Del	Deletes from the current selection to the end of the list when editing a scan list.
Numbers	Type from the keyboard or keypad.
Caps Lock	Disabled. Use the Shift key to change case.

Table 6: OSCAR Navigation Basics

4.4 Configuring OSCAR

You can configure your KVM s2-1611 system from the Setup menu within OSCAR. Select the *Names* button when initially setting up your appliance to identify servers by unique names. Select the other setup features to manage routine tasks for your servers from the OSCAR menu.

Setup Feature	Purpose
Menu	Change the server listing between numerically by port or EID number and alphabetically by name. Change the Screen Delay Time before OSCAR displays after pressing Print Screen .
Flag	Change display, timing, color or location of the status flag.
Broadcast	Set up to simultaneously control multiple servers through keyboard and mouse actions.
Scan	Set up a custom scan pattern for up to 16 servers.
Security	Set passwords to restrict server access. Enable the screen saver.
Devices	Identify the appropriate number of ports on an attached cascade switch.
Names	Identify servers by unique names.

Table 7: OSCAR Navigation Basics

4.4.1 Accessing the Setup menu

► Press Print Screen to launch OSCAR. The Main dialog box appears.

► Click *Setup*. The Setup dialog box appears.

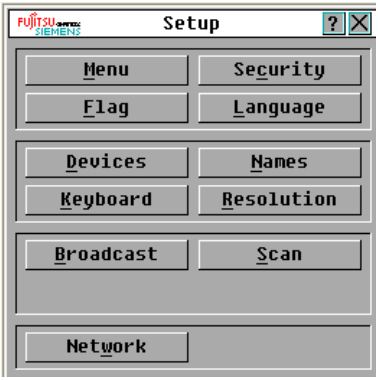

Figure 6: Setup Dialog Box

4.4.2 Assigning server names

Use the Names dialog box to identify individual servers by name rather than by port number. The Names list is always sorted by port order. Names are stored in the KVM s2-Adapter, so even if you move the cable/server to another RI port, the name and configuration will be recognized by the appliance.

If a server is turned off, its respective KVM s2-Adapter will not appear in the Names list.

4.4.2.1 Accessing the Names dialog box

► Press Print Screen . The Main dialog box will appear.

► Click *Setup - Names.* The Names dialog box appears.

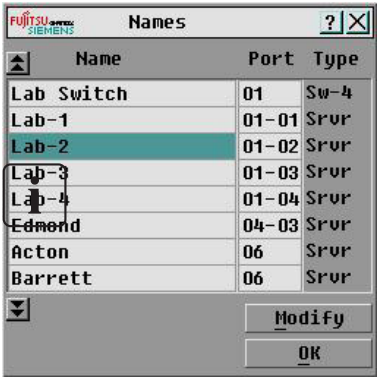

Figure 7: Names Dialog Box

If the server list changes, the mouse cursor will turn into an hourglass as the list is automatically updated. No mouse or keyboard input will be accepted until the list update is complete.

4.4.2.2 Assigning names to servers

► In the Names dialog box, select a server name or port number and click *Modify*. The Name Modify dialog box appears.

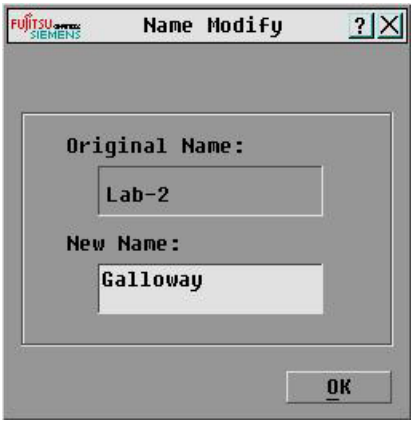

Figure 8: Name Modify Dialog Box

► Type a name in the New Name box. Names of servers may be up to 15 characters long. Legal characters include: A-Z, a-z, Ø-9, space and hyphen.

► Click *OK* to transfer the new name to the Names dialog box. Your selection is not saved until you click *OK* in the Names dialog box.

► Repeat steps 1-3 for each server in the system.

► Click *OK* in the Names dialog box to save your changes.
-or-
Click *X* or press Escape to exit the dialog box without saving changes.

If a KVM s2-Adapter has not been assigned a name, the EID is used as the default name.

4.4.3 Assigning device types

While the appliance automatically discovers cascade switches attached to your unit, you will need to specify the number of ports on the cascade switch through the Devices dialog box. The appliance recognizes KVM switches. You will see an Sw-8 or Sw-24 appear in the Type category. When you select that switch from the list, the Modify button appears, allowing you to assign the appropriate number of ports to it.

4.4.3.1 Accessing the Devices dialog box

► Press Print Screen. The Main dialog box will appear.

► Click *Setup - Devices*. The Devices dialog box appears.

The Modify button will only be available if a configurable switch is selected.

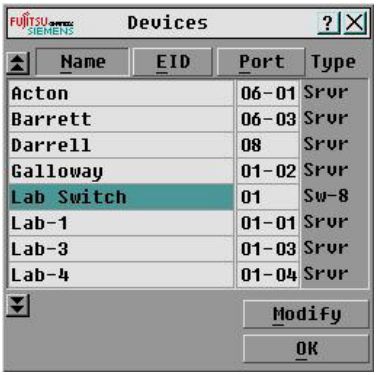

Figure 9: Devices Dialog Box

When the KVM s2-1611 appliance discovers a cascade switch, you will notice the port numbering change to accommodate each server under that switch. For example, if the switch is connected to RI port 6, the switch port would be listed as 06 and each server under it would be numbered sequentially 06-01, 06-02 and so on.

4.4.3.2 Assigning a device type

► In the Devices dialog box, select the desired port number.

► Click *Modify*. The Device Modify dialog box appears.

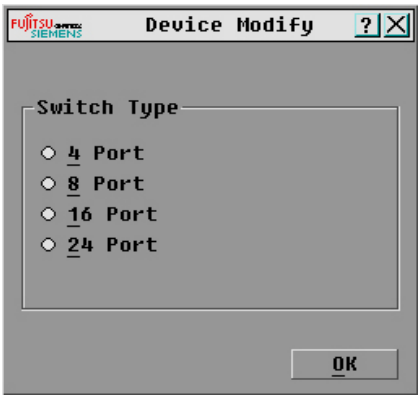

Figure 10: Device Modify Dialog Box

► Choose the number of ports supported by your switch and click *OK*.

This appliance does not support 24 port switches at this time.

► Repeat steps 1–3 for each port that needs a device type assigned.

► Click *OK* in the Devices dialog box to save settings.

Changes made in the Device Modify dialog box are not saved until you click *OK* in the Devices dialog box.

4.4.4 Changing the display behavior

Use the Menu dialog box to change the display order of servers and set a Screen Delay Time for OSCAR. The display order setting alters how servers will display in several screens including the Main, Devices and Broadcast dialog boxes.

4.4.4.1 Accessing the Menu dialog box

► Press Print Screen to launch OSCAR. The Main dialog box appears.

► Click *Setup - Menu* in the Main dialog box. The Menu dialog box appears.

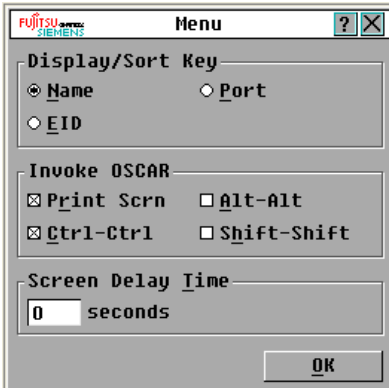

Figure 11: Menu Dialog Box

4.4.4.2 Choosing the default display order of servers

► Select *Name* to display servers alphabetically by name.
-or-
Select *EID* to display servers numerically by EID number.
-or-
Select *Port* to display servers numerically by port number.

► Click *OK*.

4.4.4.3 Setting a Screen Delay Time for OSCAR

► Type in the number of seconds (Ø-9) to delay OSCAR display after you press Print Screen. Entering Ø will instantly launch OSCAR with no delay.

► Click *OK*.

Setting a Screen Delay Time allows you to complete a soft switch without OSCAR displaying. To perform a soft switch, see *Soft switching* in this chapter.

4.4.5 Controlling the status flag

The status flag displays on your desktop and shows the name or EID number of the selected server or the status of the selected port. Use the Flag dialog box to configure the flag to display by server name or EID number, or to change the flag color, opacity, display time and location on the desktop.

OSCAR Flag	Description
Darrell	Flag type by name
520255-73F344	Flag type by EID number
Free	Flag indicating that the user has been disconnected from all systems
Darrell	Flag indicating that Broadcast mode is enabled

Table 8: OSCAR Status Flags

4.4.5.1 Accessing the Flag dialog box

- ► Press Print Screen . The Main dialog box will appear.
- ► Click *Setup - Flag.* The Flag dialog box appears.

Figure 12: Flag Dialog Box

4.4.5.2 Determining how the status flag is displayed

- ► Select *Name* or *EID* to determine what information will be displayed.
- ► Select *Displayed* to show the flag all the time or select *Timed* to display the flag for only five seconds after switching.
- ► Select a flag color in Display Color.
- ► In Display mode, select *Opaque* for a solid color flag or select *Transparent* to see the desktop through the flag.

► To position the status flag on the desktop:
   a. Click *Set Position* to gain access to the Position Flag screen.
   b. Left-click on the title bar and drag to the desired location.
   c. Right-click to return to the Flag dialog box.

Figure 13: Position Flag

Changes made to the flag position are not saved until you click *OK* in the Flag dialog box.

► Click *OK* to save settings.
-or-
Click *X* to exit without saving changes.

4.4.6 Setting console security

OSCAR enables you to set security on your analog port console. You can establish a screen saver mode that engages after your console remains unused for a specified Inactivity Time. Once engaged, your console will remain locked until you press any key or move the mouse. You will then need to type in your password to continue.

Use the Security dialog box to lock your console with password protection, set or change your password and enable the screen saver.

If a password has been previously set, you will have to enter the password before you can access the Security dialog box.

4.4.6.1 Accessing the Security dialog box

► Press Print Screen . The Main dialog box will appear.

► Click *Setup - Security*. The Security dialog box appears.

Figure 14: Security Dialog Box

4.4.6.2 Setting or changing the password

- ► Single-click and press Enter or double-click in the New text box.
- ► Type the new password in the New text box and press Enter .
  Passwords must contain both alpha and numeric characters, are case sensitive and may be up to 12 characters long. Legal characters are: A-Z, a-z, Ø-9, space and hyphen.
- ► In the Repeat box, type the password again and press Enter .
- ► Click *OK* to change only your password, and then close the dialog box.

If you should lose or forget your password, you must return your switch. See the*Technical Support* section for contact information.

4.4.6.3 Password protecting your console

- ► Set your password as described in the previous procedure.
- ► Select *Enable Screen Saver.*
- ► Type the number of minutes for Inactivity Time (from 1 to 99) to delay activation of password protection and the screen saver feature.
- ► For Mode, select *Energy* if your monitor is Energy Star®compliant; otherwise select *Screen*.

Monitor Damage

Monitor damage can result from the use of Energy mode with monitors not compliant with Energy Star®.

- ► (Optional) Click *Test* to activate the screen saver test which lasts 10 seconds

then returns you to the Security dialog box.

► Click *OK*.

4.4.6.4 Logging in to your console

► Press any key or move the mouse.

► The Password dialog box appears. Type your password, then click *OK*.

► The Main dialog box appears if the password was entered properly.

4.4.6.5 Removing password protection from your console:

► From the Main dialog box, click *Setup - Security*; the Password dialog box appears. Type your password, then click *OK*.

► In the Security dialog box, single-click and press Enter or double-click in the New box. Leave the box blank. Press Enter .

► Single-click and press Enter or double-click in the Repeat box. Leave the box blank. Press Enter .

► Click *OK* to eliminate your password.

4.4.6.6 Enabling the screen saver mode with no password protection

► If your console does not require a password to gain access to the Security dialog box, proceed to step 2.
-or-
If your console is password protected, see the previous procedure, then go to step 2.

► Select *Enable Screen Saver*.

► Type the number of minutes for Inactivity Time (from 1–99) to delay activation of the screen saver.

► Choose *Energy* if your monitor is Energy Star® compliant; otherwise select *Screen*.

Monitor Damage

Monitor damage can result from the use of Energy mode with monitors not compliant with Energy Star®.

► (Optional) Click *Test* to activate the screen saver test which lasts 10 seconds then returns you to the Security dialog box.

► Click *OK*.

Activation of the screen saver mode disconnects the user from a server; no server is selected. The status flag displays Free.

4.4.6.7 Exiting the screen saver mode

Press any key or move your mouse. The Main dialog box appears and any previous server connection will be restored.

4.4.6.8 Turning off the screen saver

- ► In the Security dialog box, clear *Enable Screen Saver.*
- ► Click *OK*.

4.4.6.9 Immediately turning on the screen saver

Press Print Screen, then press Pause .

4.5 Viewing/Disconnecting User Connections

You can view and disconnect users through the User Status dialog box. The user name (U) will always be displayed; however, you can display either the server name or EID number to which a user is connected. If there is no user currently connected to a channel, the user field will be blank and the server field will display *Free*.

4.5.1 Viewing current user connections

- ► Press Print Screen . The Main dialog box will appear.
- ► Click *Commands - User Status.* The User Status dialog box appears.

4.5.1.1 Disconnecting a user

- ► Press Print Screen . The Main dialog box will appear.
- ► Click *Commands - User Status.* The User Status dialog box appears.
- ► Click the letter of a user to disconnect. The *Disconnect* dialog box will appear.

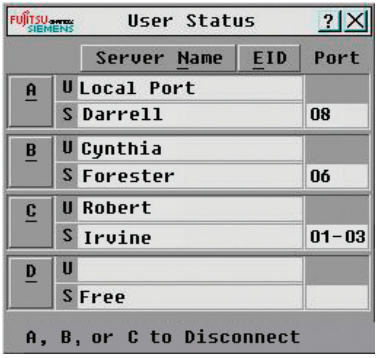

Figure 15: User Status Dialog Box Figure 16: Disconnect Dialog Box

► Click *OK* to disconnect the user and return to the User Status dialog box.
-or-
Click *X* or press Escape to exit the dialog box without disconnecting a user.

If the User Status list has changed since it was last displayed, the mouse cursor will turn into an hourglass as the list is automatically updated. No mouse or keyboard input will be accepted until the list update is complete.

4.6 Resetting Your Keyboard and Mouse

If your keyboard or mouse locks up, you may be able to re-establish operation of these peripherals by issuing a reset command. The reset command sends a key sequence to the server which causes the mouse and keyboard settings to be sent to the appliance. With communication re-established between the server and the appliance, functionality is restored to the user.

4.6.1 Resetting the mouse and keyboard values

► Press Print Screen . The Main dialog box will appear.

► Click *Commands - Reset PS/2.* A message box displays indicating that the mouse and keyboard have been reset.

► Click *X* to close the message box.

4.7 Displaying Version Information

OSCAR enables you to display the KVM s2-1611 and KVM s2-Adapter firmware versions. For optimum performance, keep your firmware current. For more information, see Chapter 5.

► Press Print Screen . The Main dialog box will appear.

► Click *Commands - Display Versions.* The Version dialog box appears. The top half of the box lists the subsystem versions in the appliance.

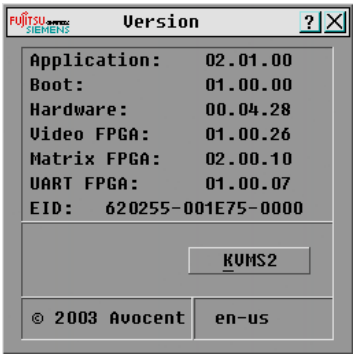

Figure 17: Version Dialog Box

► Click *Digital* to view the Digitizer unit firmware versions. The Digital Version dialog box appears. The top section identifies the Digitizer subsystem versions. The center section identifies the current network settings. Click *X* or press Escape to return to the Version dialog box.

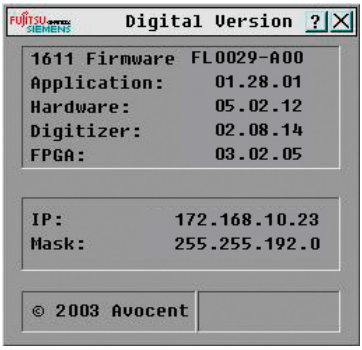

Figure 18: Digital Version Dialog Box

► Click *KVMS2* (see *Figure 17*) to view individual KVM s2-Adapter version information. The KVM s2-Adapter Selection dialog box appears.

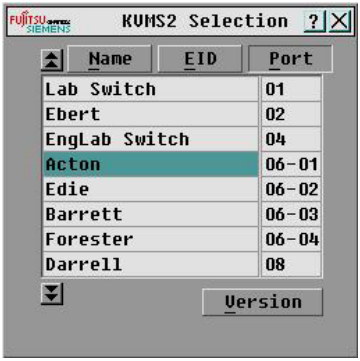

Figure 19: KVM s2-Adapter Selection Dialog Box

► Select a KVM s2-Adapter to view and click the *Version* button. The KVM s2-Adapter Version dialog box appears. For more information on loading firmware, see Chapter 5.

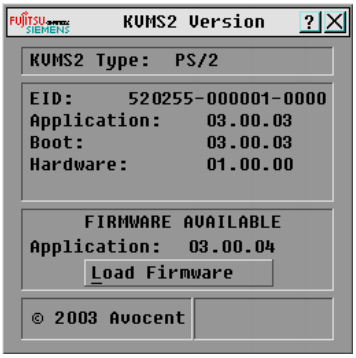

Figure 20: KVM s2-Adapter Version Dialog Box

► Click *X* to close the Version dialog box.

4.8 Scanning Your System

In scan mode, the appliance automatically scans from port to port (server to server). You can scan up to 16 servers, specifying which servers to scan and the number of seconds that each server will display. The scanning order is determined by placement of the server in the list. The list is always shown in scanning order. You can, however, choose to display the server's name or EID number by pressing the appropriate button.

Scanning is only available to the analog user.

4.8.1 Adding servers to the scan list

► Press Print Screen . The Main dialog box will appear.

► Click *Setup - Scan*. The Scan dialog box appears.

Figure 21: Scan Dialog Box

► Determine the order within the list to add the server. If there are no servers in the scan list, your cursor will appear in a blank line at the top of the list.
-or-
To add a server to the end of the list, place your cursor in the last server entry and press the Down Arrow key.
-or-
To add a server in the midst of an existing list, place your cursor in the line below where you want to insert a new server and press Insert .

► Type the first few characters of a server name or port number to scan. The first matching server will appear in the line.
-or-
To move through the list, press the following keyboard commands in the Name, Port or Sec column to move through the list of servers available to scan.

a. Press Alt+Down Arrow to move the cursor down through the list of servers.

b. Press Alt+Up Arrow to move the cursor up through the list of servers.

c. Press Alt+Home to move the cursor to the first server in the list.

d. Press Alt+End to move the cursor to the last server in the list.

► In the Sec column, type the number of seconds (from 3 to 255) of desired time before the scan moves to the next server in the sequence.

► Move the cursor to the next line or press the Down Arrow and repeat steps 2-5 for each of the remaining servers to be included in the scan pattern.

► Click *OK*.

4.8.2 Removing a server from the scan list

► In the Scan dialog box, click the server to be removed.

► Press Delete .
-or-
Press Shift+Delete to remove the selected server and all entries below it.

► Click *OK*.

4.8.3 Starting the scan mode

► Press Print Screen . The Main dialog box will appear.

► Click *Commands*. The Commands dialog box appears.

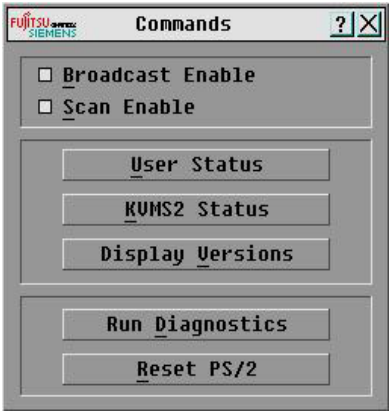

Figure 22: Commands Dialog Box

► Select *Scan Enable* in the Commands dialog box.

► Click *X* to close the Commands dialog box.

Scanning will commence when the Main dialog box or flag is displayed. Scanning is inhibited in any other OSCAR dialog box.

4.8.4 Cancelling scan mode

► Select a server if OSCAR is open.
-or-
Move the mouse or press any key on the keyboard if OSCAR is not open. Scanning will stop at the currently selected server.
-or-
Press Print Screen . The Main dialog box will appear.

► Click *Commands*. The Commands dialog box appears.

► Clear *Scan Enable*.

4.9 Broadcasting to Servers

The analog user can simultaneously control more than one server in a system, to ensure that all selected servers receive identical input. You can choose to broadcast keystrokes and/or mouse movements independently.

You can broadcast to up to 16 servers at a time, one server per RI port.

4.9.1 Accessing the Broadcast dialog box

► Press Print Screen . The Main dialog box will appear.

► Click *Setup - Broadcast*. The Broadcast dialog box appears.

Figure 23: Broadcast Dialog Box

When broadcasting keystrokes, the keyboard state must be identical for all servers receiving a broadcast to interpret keystrokes identically. Specifically, the Caps Lock and Num Lock modes must be the same on all keyboards. While the appliance attempts to send keystrokes to the selected servers simultaneously, some servers may inhibit and thereby delay the transmission.

When broadcasting mouse movements, all systems must have identical mouse drivers, desktops (such as identically placed icons) and video resolutions for the mouse to work accurately. In addition, the mouse must be in exactly the same place on all screens. Because these conditions are extremely difficult to achieve, broadcasting mouse movements to multiple systems may have unpredictable results.

4.9.1.1 Broadcasting to selected servers:

► From the Broadcast dialog box, select the mouse and/or keyboard checkboxes for the servers that are to receive the broadcast commands.
-or-
Press the Up or Down Arrow keys to move the cursor to the target server. Then press Alt+K to select the keyboard checkbox and/or Alt+M to select the mouse checkbox. Repeat for additional servers.

► Click *OK* to save the settings and return to the Setup dialog box. Click *X* or press Escape to return to the Main dialog box.

► Click *Commands*. The Commands dialog box appears.

► Click the *Broadcast Enable* checkbox to activate broadcasting.

► From the user station, type the information and/or perform the mouse movements you want to broadcast.

4.9.1.2 Turning broadcasting off

From the Commands dialog box, clear the *Broadcast Enable* checkbox.

4.10 Terminal Operations

Each individual KVM s2-1611 may be configured at the unit level through the configuration port on the back of the unit. All Terminal commands are accessed through a terminal or PC running terminal emulation software.

4.10.1 Configuring the Terminal menu

The KVM s2-1611 Terminal Applications menu features five selections: Network Configuration, Firmware Management, Enable Debug Messages, Set/Change Password and Exit.

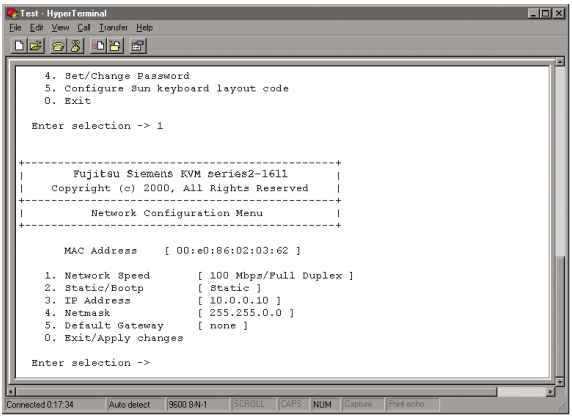

Figure 24: Network Configuration Menu

4.10.1.1 Accessing the Terminal menu

► Connect a terminal or PC running terminal emulation software (such as HyperTerminal) to the configuration port on the back panel of the KVM s2-1611 using a RS232 DB9 null modem cable. The terminal should be set to 9600 baud, 8 bits, 1 stop bit, no parity and no flow control. The terminal may be connected at any time, even when the unit is powered.

► Press any key to access the main menu.

4.10.2 Network Configuration

The KVM s2-1611 is configured for network access through the Network Configuration option. When it is selected, you will have access to the addressing that allows the KVM s2-1611 to be positioned in your network. For more information, see *Installing the KVM s2-1611* in Chapter 3.

4.10.2.1 Firmware Management

This menu option contains the FLASH Download command. The FLASH Download selection allows you to keep your KVM s2-1611 firmware current with upgrades available from Fujitsu Siemens. For more information, see Chapter 5.

4.10.2.2 Enable Debug Messages

This menu option allows you to configure the KVM s2-1611 to display messages regarding the status of the KVM s2-1611. Once you select the level of detail to receive, the KVM s2-1611 will begin to display information on your terminal screen. When you are finished viewing, press any key to exit this mode.

4.10.2.3 Set/Change Password

The KVM s2-1611 can be set to a secure mode where the Terminal menu cannot

be accessed without first entering a password.

4.10.2.3.1 Activating security

- ► Select the *Set/Change Password* menu option. You will be prompted with the option to continue. Enter a Y .
- ► Type a password for this KVM s2-1611 and press Enter. This password must be a minimum of 5 characters and can be up to a maximum of 12 characters (10 are visible). The password must consist of a combination of alpha and numeric characters.
- ► You will be prompted to re-type the password. Once you complete this step, security will be active and you will not be able to access KVM s2-1611 terminal operations without the password.

4.10.2.3.2 Changing the password

- ► Select the *Set/Change Password* menu option.
- ► You will be prompted to type the old password and a new one.
- ► Re-enter the new password to verify.

This password places your KVM s2-1611 terminal in a secure mode. This password should be guarded like any network password and care should be taken to avoid forgetting or misplacing it. There are no means for recovering a lost password.

4.10.2.4 Exit

This menu selection will return you to the ready prompt.

5 Appendices

5.1 FLASH Upgrades

The KVM s2-1611 FLASH upgrade feature allows you to upgrade your unit with the latest firmware available. To perform this update you will need a TFTP server. If you don't already have a TFTP server, there are several you can download from the internet.

If you upgrade the appliance firmware, please verify the individual firmware of the KVM s2-Adapters. The upgrade of the adapters requires a separate upgrade procedure which is found in Chapter 4.

Next, you will need to copy the FLASH upgrade file (.fl file extension) from the CD. Save the FLASH upgrade file to the appropriate directory on the TFTP server. Once this is complete, the following steps will upload the new FLASH file.

When upgrading your switch firmware, ensure that the keyboard country codes with your system correspond with the firmware loaded in your switch. Contact Fujitsu SiemensTechnical Support for more information. Technical Support contact information is available at the end of this manual.

5.1.1. Uploading a new FLASH file

- ► Connect a terminal or PC running terminal emulation software (such as HyperTerminal) to the configuration port on the back panel of the KVM s2-1611 using a straight-through null modem cable. The terminal should be set to 9600 baud, 8 bits, 1 stop bit, no parity and no flow control.
- ► Connect the LAN port on the KVM s2-1611 to an Ethernet hub that is also connected to the PC being used as the TFTP server.
- ► Launch both the server software and the terminal emulation software.
- ► Verify that the KVM s2-1611 is turned on. After approximately 40 seconds, the KVM s2-1611 will send out a message, *Fujitsu Siemens KVM series2-1611 Ready__Press any key to continue*. Press any key to access the main menu. The KVM s2-1611 main menu appears.
- ► Get the IP address of the TFTP server: If using the SolarWinds TFTP server, it appears in the lower right-hand corner of the server's pane. Otherwise, extract it from the OS tools (may be OS-dependent):
  a. Right-click on *Network Neighborhood*.
  b. Select *Properties*.
  c. Select the *Protocols* tab.
  d. Select *TCP/IP protocol*.
  e. Select *Properties* and note the IP address.

► Assign the IP address in the KVM s2-1611, if needed:

a. In the HyperTerminal window, type 1 to select Network Configuration.

b. Note the KVM s2-1611 IP address. The first three numbers must be the same as in the server's IP address from step 5 above. The last number must be different.
If the KVM s2-1611 IP address is not correct, change it as follows: type 3 to select IP address, then enter the correct address.

c. Type Ø to exit the Network Configuration menu. If you changed the IP address, wait per the directions on the screen.

► From the main menu, type 2 to select Firmware Management. The current version of your firmware displays in the Firmware Management screen.

► From the Firmware Management menu, type 1 to select FLASH Download.

► Type the IP address of the TFTP server and press Enter .

► Type the name of the FLASH file and press Enter .

► Confirm the TFTP download by typing y or yes and pressing Enter .

► The KVM series2-1611 will verify the file you downloaded is valid. Next you will be prompted to confirm the upgrade. Type y or yes and Enter .

► The KVM series2-1611 will begin the FLASH upgrade process. On-screen indicators will display the upgrade process. When the upload is complete, the KVM series2-1611 will reset and upgrade the internal subsystems.

Power Loss

Do not cycle power to the KVM s2-1611 during this process. A loss of power might render the appliance inoperable and require the unit be returned to the factory for repair. This upgrade may take up to 10 minutes to complete.

► Once the upgrade is complete, the startup message from step 4 will appear on the terminal screen.

5.1.2 Upgrading the KVM s2-Adapter firmware

The KVM s2-Adapters can be upgraded individually or simultaneously.

Do not cycle power to the server or disconnect the KVM s2-Adapter during this process. A loss of power will render the KVM s2-Adapter inoperable and require the switch to be returned to the factory for repair.

5.1.2.1 Simultaneously upgrading multiple KVM s2-Adapters

► Press Print Screen . The Main dialog box will appear.

► Click *Commands - KVM s2-Adapter Status.* The KVM s2-Adapter Status dialog box appears.

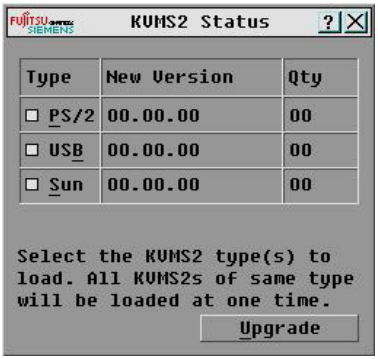

Figure 25: KVM s2-Adapter Status Dialog Box

► Click one or more types of adapters to upgrade. Click *Upgrade*.

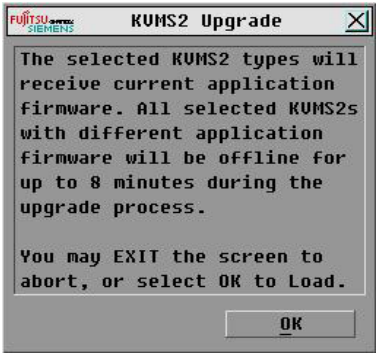
KVMS2 Upgrade
The selected KVMS2 types will receive current application firmware. All selected KVMS2s with different application firmware will be offline for up to 8 minutes during the upgrade process.
You may EXIT the screen to abort, or select OK to Load.
OK

Figure 26: KVM s2-Adapter Upgrade Dialog Box

► The KVM s2-Adapter Upgrade dialog box appears. Click *OK* to initiate the upgrade and return to the KVM s2-Adapter Status dialog box.

5.1.2.2 Upgrading KVM s2-Adapter firmware individually

► Press Print Screen . The Main dialog box will appear.

► Click *Commands - Display Versions.* The Version dialog box appears.

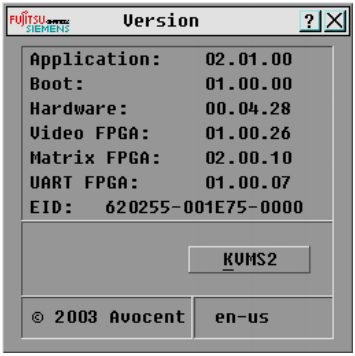

Figure 27: Version Dialog Box

► Click *KVMS2* to view individual cable version information.

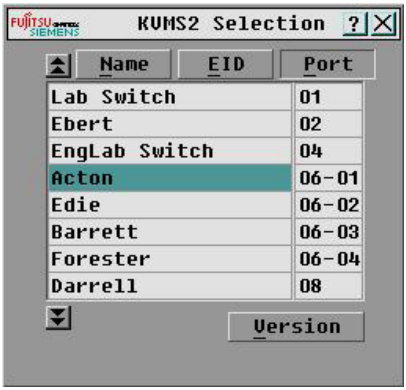

Figure 28: KVM s2-Adapter Selection Dialog Box

► Select a KVM s2-Adapter to upgrade and click the *Version* button. The KVM s2-Adapter Version dialog box appears.

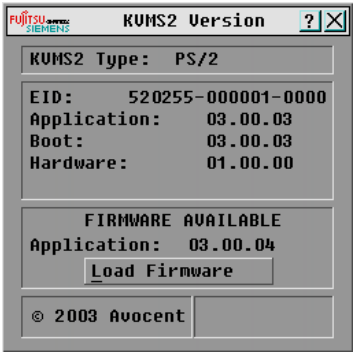

Figure 29: KVM s2-Adapter Version Dialog Box

► Click the *Load Firmware* button. The Load dialog box appears.

KVMS2 Load
The chosen KVMS2 will have its App firmware changed to the current level. This will take the KVMS2 offline for up to 8 minutes while the load is performed.
You may EXIT the screen to abort, or select OK to Load.
OK

Figure 30: KVM s2-Adapter Load Dialog Box

► Click *OK* to initiate the upgrade and return to the Status dialog box.

During an upgrade, the KVM s2-Adapter status indicator in the Main dialog box will be yellow. The KVM s2-Adapter is unavailable while an upgrade is in progress. When an upgrade is initiated, any current connection to the server via the KVM s2-Adapter will be terminated.

5.2 Sun Advanced Key Emulation

Certain keys on a standard Type 5 (US) Sun keyboard may be emulated by key press sequences on a PS/2 keyboard. To enable Advanced Sun Key Emulation mode and use they keys, press and hold Ctrl+Shift+Alt and then press the Scroll

Lock key. The Scroll Lock LED blinks. Use the indicated key in the following table as you would use the advanced keys on a Sun keyboard.

Sun Key (US)	PS/2 Key Combination
Compose	Application
Compose	keypad *
Power	F11
Open	F7
Help	Num Lock
Props	F3
Front	F5
Stop	F1
Again	F2
Undo	F4
Cut	F10
Copy	F6
Paste	F8
Find	F9
Mute	keypad /
Vol. +	keypad +
Vol. -	keypad -
Command (left) (2)	F12
Command (left) (2)	Win (GUI) left (1)
Command (right) (2)	Win (GUI) right (1)

(1) Windows 95 104-key keyboard
(2) The Command key is the Sun Meta (diamond) key

For example: For Stop + A, press and hold Ctrl+Shift+Alt and press Scroll Lock, then F1 + A .

These key combinations will work with the USB KVM series2-Adapters (if your Sun system comes with a USB port) as well as the Sun KVM series2- Adapters. With the exception of Scroll Lock+F12, these key combinations are not recognized by Microsoft Windows. The Scroll Lock+F12 combination performs a Windows key press.

5.3 Technical Support

Our Technical Support staff is ready to assist you with any installation or operating issues you encounter with your Fujitsu Siemens product. If an issue should develop, follow the steps below for the fastest possible service:

- ► Check the pertinent section of this manual to see if the issue can be resolved by following the procedures outlined.
- ► Check our web site at www.fujitsu-siemens.com/support and click on *Services & Support*. Click *helpdesk* on the left side of the page for a listing of technical support phone numbers in your area.

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Comments
Suggestions
Corrections

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Submitted by

Comments on KVM series2-1611